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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,872	03/07/2001	Burt Swersey		5441

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CARELLA, BYRNE, BAIN, GILFILLAN,
CECCHI, STEWART & OLSTEIN
6 Becker Farm Road
Roseland, NJ 07068

EXAMINER	
FITZGERALD, JOHN P	

ART UNIT	PAPER NUMBER
2856	

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/800,872	SWERSEY ET AL.	
	Examiner	Art Unit	
	John P Fitzgerald	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☒ Claim(s) *1-6* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 March 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawing Objections

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 64 and 68 in Figures 6 and 7 of the instant application. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1-6 are objected to because of the following informalities: Incorrect spelling of "permeameter" in all claims. Appropriate correction is required. Claim 2 fails to begin with "A differential permeameter as set forth in claim 1," but instead refers to claim at the end. Appropriate correction is required. Claim 3 consists of two separate sentences. The Applicant is reminded that claims are limited to a single sentence. It is suggested the second sentence of claim 3which describes the effects of the "honeycomb structures" be removed from claim 3 and placed within the specification.

Specification Objections

3. The disclosure is objected to because of the following informalities: misspelling of "permeameter" in both the TITLE, ABSTRACT and the DISCLOSURE. The instant device being claimed, and it's relative equivalents are "permeameters," not "permeometers." It appears from the search of the relevant art and commercially available equivalents, that the generally accepted standard for these devices is "permeameters." Appropriate correction and changes are

required to be made throughout the specification. Furthermore, the detailed description of the instant specification fails to reference to Figures 6 and 7, as well as elements 64 and 68. Appropriate correction is required.

Claim Rejections - 35 USC § 103

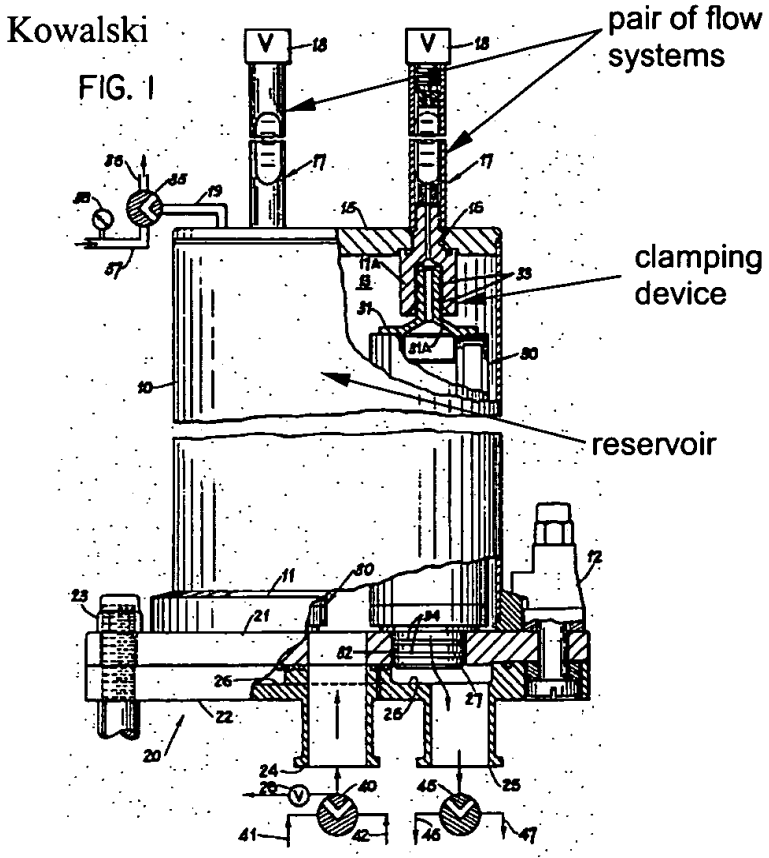
4. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Apparatus claims 1, 2 and 4-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 4,384,474 to Kowalski and US 5,968,312 to Sephton. Kowalski discloses a differential permeameter (Figs. 1-3) and method for determining the permeability of a test sample substantially as claimed including a pair of flow systems (see Fig. 1 below), each receiving a flow of fluid therethrough allowing the simultaneous permeability testing of a pair of membranes (Kowalski: col. 1, lines 15-20); a reservoir (13) connected in common to the pair of flow systems; fluid sources (37, 41, 42) (i.e. pumps, fans and their equivalents dependent upon the density of the test fluid); a pressure measurement/monitoring gauge/device (38); a pair of clamping devices utilizing o-rings (33, 133, 134) (see Fig. 1 and 3 below) to hold a porous sheet-like material membrane (113) or membrane filters (as recited in claims 1 and 6) and velocity or flow-rate indicators/measurement devices (17) (as recited in claim 2). Kowalski does not expressly disclose a differential permeameter having a pair of orifice plates being disposed in the respective flow systems between the clamping device and the reservoir having flow

therethrough; or a dual motorized screw drive disposed between the two flow systems for simultaneous movement the respective orifice plates to adjust the orifice size thereof. Sephton teaches a flow device (Figs. 1-5) with dual adjustable orifice plates (3, 4) to create a pressure drop imposed between a reservoir of liquid (13) and the downflow distribution of the liquid (Sephton: col. 16, line 62 to col. 17, line 5) and wherein the adjustable orifice plates are moved through a translating drive shaft, driven by a hydraulic cylinder (7) or a threaded shaft (65) rotationally driven by a motor (64), a worm gear or by any suitable means (Sephton: col. 5, lines 26-30); wherein the orifices within the plates may assume any shape or size, including rounded, circular, oval, elliptical or rectangular. Sephton further teaches the use of pressure sensors (piezoelectric type equivalent of pressure transducers), positioned on opposite sides of the adjustable orifice plates that measure the pressure drop/differential or change across the orifice plate (as recited in claims 4 and 6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ adjustable orifice plates with a motorized screw drive as well as pressure transducers on either side of the orifice plates of the pair of flow systems, thus providing an ability to automatically regulate, control and maintain continuous flow within the flow systems (Septhton: col. 7, lines 1-10; col. 9, lines 19-25; col. 15, lines 5 to 15). Furthermore, the employment of orifice plates, to create a pressure drop in flow systems is considered an obvious well known feature in flow systems, based on the simple Bernoulli equation based on a streamline through the center of the orifice and neglecting gravity effects, where the change in pressure (P) across an orifice is proportional to the square of the flow velocity (V):

$$\frac{V^2}{2} + \frac{P}{\rho} = \text{const. along a streamline}$$



6. Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kowalski and Septhton, as applied to claim 1 above, and further in view of US 5,906,743 to Cohen et al. Kowalski and Septhon disclose a differential permeameter having all of the elements stated previously. Kowalski and Septhon do not expressly disclose the employment of a pair of honeycomb structures disposed within the respective pair of flow systems made of plastic (Cohen et al.: col. 12, lines 62-64). Cohen et al. disclose a filter system having a honeycomb structure (112) within the fluid path. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a honeycomb structure, as taught by Cohen et al., within the flow systems of the permeameter disclosed by Kowalski and Septhon, thus providing a flow straightening means to aid in creating a uniform flow (Cohen et al.: col. 12,

lines 64-65). Furthermore, it is considered old and well known in the art to provide flow straighteners (honeycomb type or otherwise) to aid in providing stabilized flow systems and reduce overall turbulence intensities within flow systems.

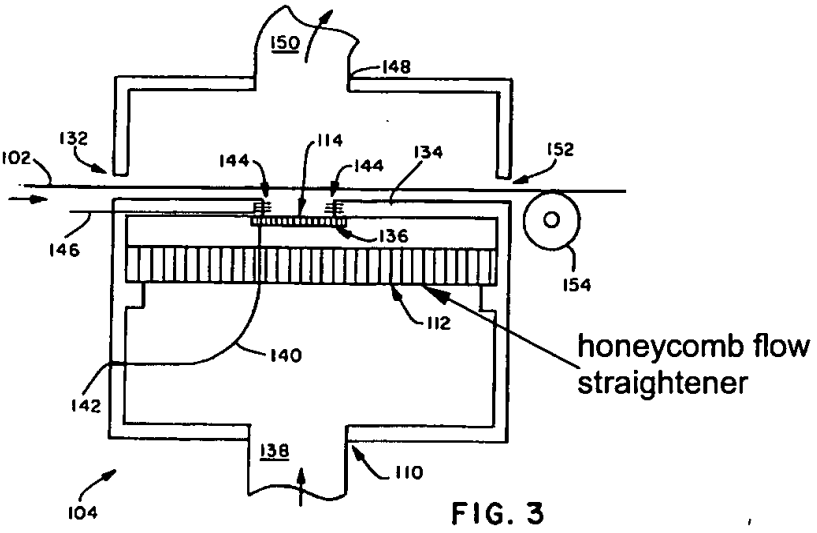


FIG. 3

Cohen et al.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 3,618 to Stephens et al., US 4,191,046 to Baker et al., US 4,566,326 to Lowell, US 4,856,967 to Jones, US 5,088,316 to McKelvey et al., US 5,107,696 to Mayer et al., US 5,544,520 to Graf et al., US 5,503,001 to Wong; SU 787,958 to Bearing, EP 51820 to Weich and WO 9428393 to Hurst et al. disclose permeameters and flow systems having relevant features such as pressure transducers for making differential pressure measurements and dual flow systems.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to

reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JF
04/08/2004

HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800